

The University at Buffalo is a leading institution in agriculture, with numerous research projects focused on improving crop yields, removing chemicals from our water supply and increasing wildlife populations to restore critical ecosystems.

## UB's Expertise in Agriculture



### Research and Education in eEnergy, Environment and Water (RENEW)

COMMITTED TO ADDRESSING  
REGIONAL AND GLOBAL ENERGY

The RENEW Institute is a university-wide, interdisciplinary initiative focused on complex energy and environmental issues, as well as

the social and economic challenges with which they are connected. RENEW develops and coordinates innovative research, education and outreach programs in a variety of fields across UB.



### Great Lakes Program

CRITICAL COLLABORATION TO  
PRESERVE THE GREAT LAKES

Established in 1986 by the New York State Senate, the UB Great Lakes Program (GLP) is a collaborative effort supporting the protection and preservation of the ecologically and economically important Great Lakes ecosystem. The GLP is one of the top research and outreach

programs associated with the Great Lakes.



### Using Artificial Intelligence to Revolutionize Agriculture

OPTIMIZING FARMING  
USING AI TECHNOLOGIES

UB's Institute for Artificial Intelligence and Data

Science (IAD) uses AI for the early detection of nutrient deficiencies, pests and other problems — as well as optimizing LED lighting for indoor farming. This enables fruits, vegetables and other food products to be grown closer to where they'll be sold to consumers, including communities with limited access to fresh food. The project addresses industry challenges (e.g. the cost of monitoring plant health) by optimizing the indoor growing environment, leading to agricultural breakthroughs and promising solutions for commercial farmers.





## New York Sea Grant (NYSG)

### KEY STATE AND UNIVERSITY PARTNERSHIPS

NYSG is a program between SUNY and Cornell University promoting informed stewardship of coastal resources, including the Great Lakes. NYSG has

offices at UB, Cornell, Stony Brook University, SUNY Oswego and other locations throughout the state.



## Using Artificial Intelligence to Help Fish Populations Swim to Lake Erie

### GUIDING FISH TO THEIR NATURAL HABITATS

UB researchers are leveraging artificial intelligence to track

the movement of emerald shiners – a crucial fish within the Great Lakes ecosystem – and help them swim together in schools against the quick moving waters of the Niagara River and Lake Erie.

# Meet Our Startups and Entrepreneurs



## UB Supported Startup

**Big Daddy Garden Company** creates tools to make gardening more efficient and enjoyable. The company's patented, U.S.-built garden caddy combines hauling, watering, seating and storage into a single cart that helps make yard work easier.



## UB Supported Startup

**Cloud and Field** is leveraging patent-pending technology that combines AI, robotics and the invaluable experience of farmers to make sure farmers have the latest in technology to help govern their farm, locate labor and stay in tune with critical information from local extensions.



## UB Supported Startup

**WeRadiate** is reviving the world's degraded soil and are creating a systematic, data-driven approach in organic recycling to improve soil nutrient levels by collaborating with compost operators, farmers, municipalities and urban growers.